

10/776262

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WHAT IS CLAIMED IS:

1. A permanent magnet motor for driving a fan, comprising:

a rotor including a permanent magnet;

a stator including a stator core having a stator winding;

a bearing for rotatably supporting a rotary shaft of said rotor; and

a fan arranged on said rotor;

wherein the fan is rotated while preventing, by a magnetic attraction force of the permanent magnet and the stator core, said rotor moving in a direction of thrust of the rotary shaft with a rotation of said fan; and

wherein a surface magnetic flux density of the permanent magnet facing the stator core is lower at an end portion than at a central portion of the permanent magnet along the direction of thrust of the rotary shaft.

2. A permanent magnet motor according to Claim 1, wherein said permanent magnet motor is configured of magnetic materials having different magnetic characteristics so that the surface magnetic flux density of said permanent magnet facing said stator core is lower at the end portion than at the central portion of said permanent magnet along the direction of thrust of said rotary shaft.

3. A permanent magnet motor according to Claim